

REMARKS

Claims 1-3, 5-7, 9-14, and 16-19 are pending. By this Amendment, claims 1, 5, 12, and 13 are amended, claims 16-19 are added and claims 4, 8 and 15 are cancelled. No new matter is added. Reconsideration in view of the above-outlined amendments and the following remarks are respectfully requested.

Claims 4, 8 and 15 were rejected under 35 USC § 112, first paragraph as failing to comply with the enablement requirement because the specification allegedly does not disclose what types of materials out of the vastly numerous possibilities would prevent galling. Applicants respectfully traverses this rejection.

Applicants direct the Examiner's attention to paragraph [0026] in the specification, which sets forth specific materials suitable for the formation of the outer member and the inner member to prevent galling. To expedite examination of this application, applicants have cancelled original claims 4, 8 and 15 from the application. Accordingly, it is respectfully submitted that the application complies with the requirements of 35 USC § 112, first paragraph. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-15 were rejected under 35 USC § 102(b) over U.S. Patent No. 5,964,408 to Musson. This rejection is respectfully traversed.

Musson discloses an improvement for pop-up sprinkler systems. Musson discloses a sprinkler with an integral flow control valve. The sprinkler having a sprinkler case 20 with a bearing guide 80, a pop-up stem 22, a pop-up seal 24, and a retracting spring 26. The sprinkler case 20 include a flow control valve located at a lower end. The flow control valve includes a bonnet 32, a pilot flow exit port 36, a piston 48, a piston guide 46 with an internal flow passage to accommodate continuous pilot flow through the bonnet chamber when the valve is open, a piston 48, a piston spring 40, and a flow control valve diaphragm 42 extending between the bonnet 32 and the piston 48. A solenoid valve 90 or pilot valve 92 is provided to permit flushing of the sprinkler.

Claims 1-3, 5-7, 9-12 and 16-19 are directed to an ultrasonic cleaner assembly for irradiated nuclear fuels. Applicants respectfully submit that the pop-up sprinkler of Musson does not anticipate the subject matter of these claims. Musson does not disclose a housing assembly for receiving a fuel. Instead, Musson discloses a sprinkler case 20 having a pop-up stem 22. Furthermore, Musson does not disclose a flow diverter assembly for switching a

flow path between a fuel pool and a suction line to a filter and pump assembly. Instead, Musson discloses a flow control valve for supplying water to the sprinkler case 20. The control valve does not divert fluid between two flow paths. To further distinguish the claims from Musson, claims 1 and 5 are amended to positively recite a filter and pump assembly for withdrawing and filtering fluid from the housing assembly at predetermined times. There is no such feature disclosed, suggested or taught by Musson. Claims 1 and 5 are allowable over Musson. Claims 2, 3, 16 and 17 depend from claim 1. Claims 6, 7, 9-12, 18 and 19 depend from claim 5. These claims are allowable over Musson for at least the reasons set forth above.

Claims 13 and 14 are directed to a flow diverter assembly. The flow diverter assembly includes a fixed outer member and spring biased movable member. The fixed outer member has at least one by-pass position window formed therein and at least one engaged position window formed therein. The valve disclosed by Musson fails to disclose, teach or suggest the claimed windows. The spring biased movable member has at least one window formed therein. Again, Musson fails to disclose this feature. The movable member is movable within the fixed outer member between a by-pass position and an engaged position. The at least one window is aligned with the at least one by-pass position window when the movable member is in the by-pass position. The at least one window is aligned with the at least one engaged position window when the movable member is in the engaged position. Musson also fails to disclose the alignment of windows in the by-pass position and the engaged position. Accordingly, claim 13 is allowable over Musson. Claim 14 depends from claim 13 and is allowable over Musson for at least the same reasons.

Accordingly, applicants respectfully submit that Musson does not disclose the claimed subject matter. Reconsideration and withdrawal of the rejection based upon Musson is respectfully requested.

During examination of the counterpart PCT International application, US Patent No. 6,396,892 to Frattini et al. (“Frattini”) was cited against the claims that correspond to claims 1, 5, 9, 17 and 19 in the present application. Applicants respectfully submit that claims 1, 5, 9, 17 and 19 are also allowable over Frattini.

Frattini discloses an ultrasonic cleaning apparatus 20 having ultrasonic transducers 22 mounted on a housing 24. A guide 28 is positioned at the top of the housing 24. A nuclear fuel assembly is passed through the guide 28 and into the housing 24. Once the nuclear fuel assembly is positioned within the housing 24, it is cleaned through the application of

ultrasonic energy from the ultrasonic transducers 22. The housing 24 includes filtration piping 32 and an emergency cooling hole 30 for use in the event that the filtration system fails. The emergency cooling hole 30 provides sufficient decay heat removal from the fuel channel through natural convection in the event of equipment failure. The filtration piping 32 is used to send water laden with removed deposits to a pump and filtration assembly 90. The cleaning apparatus 20 is positioned within a fuel pool 80.

Frattini fails to disclose, teach or suggest the invention of claim 1 or claim 5. Frattini fails to disclose the claimed flow diverter assembly that is capable of switching a flow path between a fuel pool and a suction line to a filter and pump assembly. This structure is lacking in Frattini. Furthermore, there is no disclosure of a flow diverter having a by-pass position and an engaged position. Accordingly, applicants respectfully submit that the present claims are also allowable over Frattini. Claims 9, 17 and 19 depend from either claim 1 or claim 5 and are allowable for at least the same reasons.

Applicants respectfully submits that the claims defines subject matter that is patentable over the prior art of record. Should any issues require further resolution, the Examiner is requested to telephone applicant's undersigned attorney to discuss and resolve these issues. Reconsideration and allowance of the above-identified application in view of the following remarks are respectfully requested. Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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